APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,848	12/10/2001	Adrian W. Payne	GB 010002	7605

24737	7590	04/01/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER
PERILLA, JASON M

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)	
Office Action Summary	10/015,848	PAYNE ET AL.	
	Examiner	Art Unit	
	Jason M Perilla	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5 and 10-14* is/are rejected.

7)☒ Claim(s) *4,6-9 and 15-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *12/01 4/02* .

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-18 are pending in the instant application.

Priority

2.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

3.   The information disclosure statements (IDS) submitted on December 10, 2001

and April 22, 2002 are in compliance with the provisions of 37 CFR 1.97. Accordingly,

the information disclosure statements are being considered by the examiner.

Drawings

4.   The drawings are objected to for the following reasons:

The handwritten reference numbers are illegible in every figure and, in figure 7,

the reference blocks without labels should be internally labeled with text to further aid in

the illustration of the embodiment of the invention.

5.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

6.   Claims 1-18 are objected to because of the following informalities:

Regarding claim 1, in lines 3-4, "the current demodulated" should be replaced by

–a current demodulated--.

Regarding claim 2, in lines 2-3, it is suggested that "characterized by having a

plurality of threshold levels and" is stricken because the plurality of threshold levels is

already defined in parent claim 1. Further, "the threshold levels" should be replaced by

–the plurality of threshold levels—in each instance. In line 4, "the average" should be

replaced by –an average--.

Regarding claim 3, in line 3, "the selected threshold" should be replaced by –a

selected threshold--.

Regarding claim 4, in line 2, "of the order" should be replaced by –on the order--,

and, in line 4, "the demodulated" should be replaced by –a demodulated--.

Regarding claim 6, in line 3, "the demodulated signal" should be replaced by –a

demodulated signal--.

Regarding claim 7, in line 2, "of a plurality of preset default threshold values" should be replaced by –of the plurality of threshold values--, in line 3, "the latest detected bit" should be replaced by –a latest detected bit--, in line 5, "at least 2 bit periods" should be replaced by –at least two bit periods of the demodulated bit stream— for clarity of the claim, in lines 5-6, "the selected preset default value" should be replaced by –a selected preset default threshold value—and "a dc offset" should be replaced by –a current dc offset--, in lines 8-9, "with a selected threshold value" should be replaced by –with the selected threshold value--.

Regarding claim 8, in lines 1-2, "the dc offset" should be replaced by –the mean dc offset--.

Regarding claim 9, in line 2, "with respect to drifts" should be replaced by –with respect to a rate of dc offset drift—to make the claim language definite.

Regarding claim 10, in line 4, "the bit slicer" should be replaced by –the variable threshold bit slicer--, in lines 6-7, "a dc offset estimate" should be replaced by –a current dc offset estimate--, in line 10, "a demodulated signal" should be replaced by –a demodulated bit--.

Regarding claim 12, the claim is objected to as applied to claim 9 above.

Regarding claim 13, in line 2, "rate" should be stricken for clarity of the claim in view of the specification, in line 3, "each of the threshold values" should be replaced by –each of the plurality of threshold values--, in line 4, "selecting the threshold value" should be replaced by –selecting a one of the plurality of threshold values—and "the current bit" should be replaced by –a current demodulated bit--, in line 5, "N bits" should

be replaced by –N demodulated bits--, and, in line 6, "the current bit" should be replaced by –the current demodulated bit—in each instance.

Regarding claim 14, in lines 2 and 4, "rate" should be stricken for clarity of the claim in view of the specification, in line 3, "the demodulated signal" should be replaced by –the demodulated bit signal--, and in lines 4-5, "the bit slicer" should be replaces by – the variable threshold bit slicer--.

Regarding claim 15, in line 2, "the demodulated bit stream" should be replaced by –a demodulated bit stream--, in lines 4-5, "of the predetermined number of bit rate periods" should be replaced by –bit periods--, in line 5, "demodulated signal" should be replaced by –demodulated bit signal--, and, in line 6, "the selected one of the threshold values" should be replaced by –the selected threshold value--.

Regarding claim 16, in line 2, "the demodulated bit stream" should be replaced by –a demodulated bit stream--, in line 4, "demodulated signal" should be replaced by – demodulated bit signal--, and, in lines 4-5, "the selected one of the threshold values" should be replaced by –the selected threshold value--.

Regarding claim 17, in lines 1-2, "means for selecting one of a plurality of preset default threshold values" should be replaced by –selecting one of the plurality of threshold values--, in lines 3-4, "the N previously detected bits" should be replaced by – the N demodulated bits—and "the latest detected bit" should be replaced by –the current demodulated bit--, in line 4, "the bit slicer" should be replaced by –the variable threshold bit slicer--, in line 5, "at least 2 bit periods" should be replaced by –at least two bit periods of the demodulated bit signal—, in line 6, "the selected preset default value"

should be replaced by –a selected preset default threshold value—, in line 7, "a dc

offset" should be replaced by –a current dc offset--, in lines 9-10, "with a selected

threshold value" should be replaced by –with the selected threshold value--, and, in line

11, "the bit slicer" should be replaced by –the variable threshold bit slicer--.

Regarding claim 18, in lines 2-3, "with respect to drift" should be replaced by –

with respect to a rate of dc offset drift—to make the claim language definite.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8.   Claims 10-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the

invention.

Regarding claim 10, the claim is not enabled because one skilled in the art is not

enabled to select one of a plurality of n bit values in accordance with a bit sequence.

The specification clearly relates the selection of one of a plurality of thresholds to

correct a dc offset, but it does not enable one to select an n bit value to be used to

make a dc offset correction. Indeed, the selected value is enabled to be a threshold or

dc level rather than a pure digital n bit value.

Regarding claims 11-12 the claims are rejected as being dependent upon a

rejected parent claim.

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

10.   Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Regarding claim 5, the claim is indefinite because the more recent bit period and

the preceding bit period are both lacking antecedent basis. Further, one skilled in the

art is unable to determine the purpose of the selection of the two samples from the

recent and one sample from the preceding periods. The selection of the bits is not

limited to a specific purpose for the claimed method and, therefore, the claim becomes

indefinite because the purpose of the selection is not defined in the claim.

Claim Rejections - 35 USC § 102

11.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

12.   Claims 1, 3, 13 and 14 rejected under 35 U.S.C. 102(b) as being anticipated by

Wang et al (US 5459762; hereafter "Wang").

Regarding claim 1, Wang discloses according to figure 6 a method of

determining the value of a signal, in which N previously detected bits (where N is at

least 2) of a demodulated bit stream (630 and 640; col. 2, lines 29-31) are used to select (650) which one of a plurality of threshold levels (fig. 7) against which the current demodulated bit is to be compared in a bit slicer (620) and is to be updated using the current demodulated bit (col. 3, lines 36-50).

Regarding claim 3, Wang discloses the limitations of claim 1 as applied above. Further, Wang discloses intermittently (fig. 7, ref. 615) integrating the demodulated bit stream over at least two bit periods (fig. 6, refs. 600 and 610) and comparing (fig. 6, ref. 620) the results with a selected threshold value (fig. 6, ref. 650) and using the result to update the selected threshold value (col. 3, lines 36-50).

Regarding claim 13, Wang discloses a receiver by figure 6 having a variable threshold slicer (620), comprising means for deriving a demodulated bit rate signal (I1; fig. 5; col. 3, lines 17-25), means for storing a plurality of threshold values (650; fig. 8), each of the threshold values being selectively adjustable (col. 3, lines 36-50), means for selecting the threshold value for comparison with the current bit and for adjustment in response to a sequence of N bits (641 and 642; b-1 and b-2) received prior to the current bit (output of 620) and means for using the current bit to update the selected threshold value (col. 3, lines 36-50).

Regarding claim 14, Wang discloses the limitations of claim 13 as applied above. Further, Wang discloses the limitations of claim 14 as applied to claim 3 above.

13.   Claims 1, 2, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fumio Sugiyama (IDS paper April 22, 2002, reference AL; hereafter "Fumio" – References made to included English translation)

Regarding claim 1, Fumio discloses according to figure 4 a method of
determining the value of a signal (1), in which N previously detected bits (where N is at
least 2) of a demodulated bit stream (4; pg. 7, lines 9-10) are used to select (5a, 7a; pg.
7, lines 13-15) which one of a plurality of threshold levels (6a-6d) against which the
current demodulated bit is to be compared in a bit slicer (2) and is to be updated using
the current demodulated bit (8, 7b, fig. 5; pg. 7, lines 16-18).

Regarding claim 2, Fumio disclose the limitations of claim 1 as applied above.
Further, Fumio discloses having 2 mean estimators (fig. 5, refs. 12a and 12b; pg. 8,
lines 1-10) associated with each of the threshold levels (fig. 5), and for a selected one of
the threshold levels obtaining the average or difference value (fig. 5, ref. 13) of the
associated 2 mean estimators and using the result as the current selected one of the
threshold values (fig. 5, ref. 17).

Regarding claim 13, Fumio discloses the limitations of claim 13 as applied to
claim 1 above.

Conclusion

14.   The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure. The following prior art not relied upon above is cited to further
show the current state of the art with respect to variable threshold bit slicers.

U.S. Pat. No. 5761251 to Wender.

15.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Jason M Perilla whose telephone number is (571) 272-
3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Perilla
March 24, 2005

jmp

CHIEH M. FAN
PRIMARY EXAMINER